

Non-Communicable Diseases

Unit 3: Diseases & Prevention

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Non-Communicable Disease (NCD)

- ▶ Also known as chronic diseases or long-term diseases
- ▶ Multiple etiologies (causes):
 - ▶ Result of a combination of genetic, physiological, environmental, & behavioral factors
- ▶ They are NOT passed from person-to-person
- ▶ Slow progression
- ▶ 70% deaths globally; mainly affects the older population
- ▶ Non-contagious
- ▶ Involves functional impairment/disability

Non-Communicable Disease (NCD)

- ▶ Four Major Types of NCDs:

1. Cardiovascular disease (CVD)
2. Chronic respiratory disease (CRD)
3. Cancer
4. Diabetes

- ▶ Other common NCDs:

- ▶ Chronic neurologic disorders (i.e. Alzheimer's, dementia, etc.)
- ▶ Arthritis/musculoskeletal diseases

Risk Factors for NCD

- ▶ Modifiable risk factors increase the risk of dying from a NCD:
 - ▶ Tobacco use
 - ▶ Physical inactivity
 - ▶ Harmful use of alcohol
 - ▶ Unhealthy diets
- ▶ Metabolic risk factors:
 - ▶ Raised blood pressure
 - ▶ Overweight/obesity
 - ▶ Hyperglycemia
 - ▶ Hyperlipidemia

Prevention & Control of NCDs

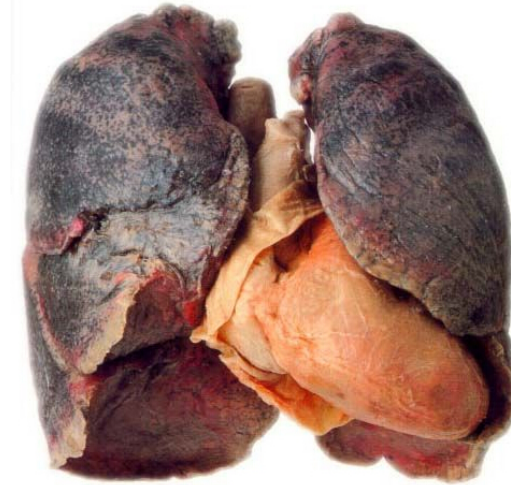
- ▶ Reduce the risk factors associated w/ the diseases
 - ▶ EXERCISE 😊
 - ▶ Eating habits
 - ▶ Maintain your stress level
- ▶ Early detection & timely treatment

Etiology of Cardiovascular Disease (CVD)

- ▶ Congenital heart defects
- ▶ High blood pressure
- ▶ Diabetes
- ▶ Smoking
- ▶ Excessive alcohol or caffeine
- ▶ Drug abuse
- ▶ Stress
- ▶ Bacterial, viral, or parasitic infections

Smoking

- ▶ Ten years after you quit smoking, your risk for lung cancer drops by half
- ▶ Smoking reduces fertility in men & increases a woman's risk for miscarriage
- ▶ Tooth loss, gum disease
- ▶ 480,000 deaths each year in the U.S.



Signs & Symptoms of CVD

- ▶ Chest pain (angina)
- ▶ Shortness of breath/fatigue
- ▶ Increased heartbeat (tachycardia)
- ▶ Decreased heartbeat (bradycardia)
- ▶ Swelling in legs &/or abdomen
- ▶ Pain, numbness, weakness, or coldness in your legs or arms
 - ▶ Occurs if the blood vessels are narrowed/compromised
- ▶ Neck, jaw, throat, upper abdomen or back pain

By 2030, almost _____ million people
will die from CVDs.

REVIEW

What are the 4 types of NCDs?

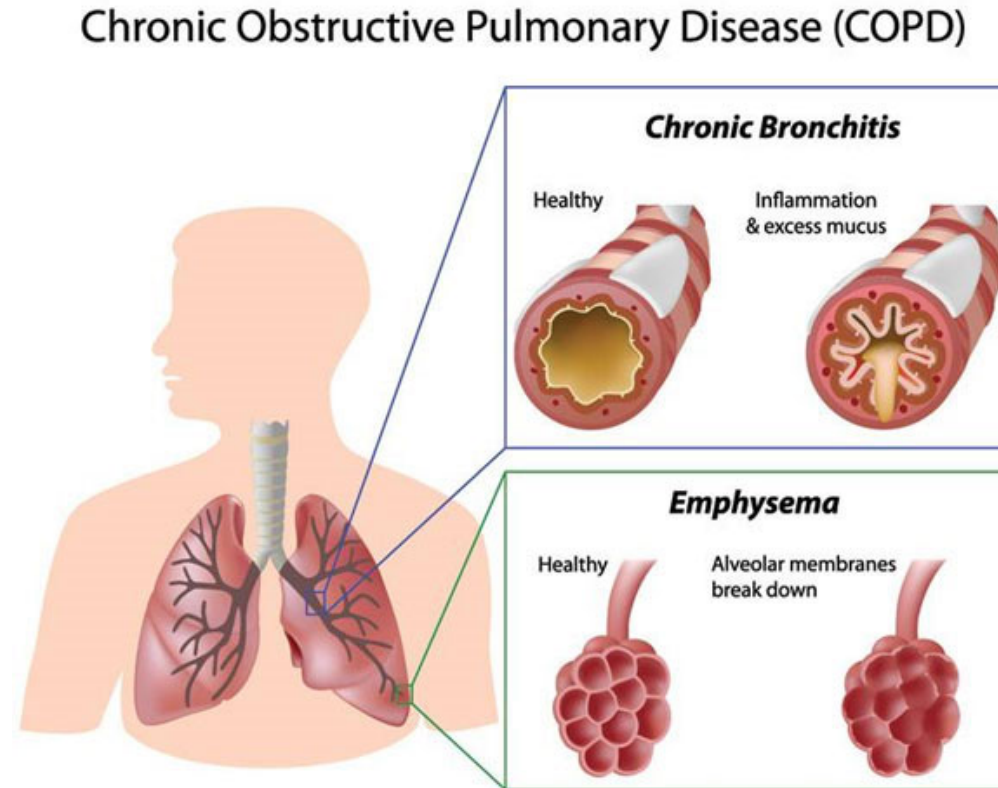
- ▶ Cardiovascular disease
- ▶ Chronic respiratory disease
 - ▶ Cancer
 - ▶ Diabetes

Chronic Respiratory Diseases

- ▶ Diseases of the airways and/or structures of the lungs
- ▶ Most common:
 - ▶ Chronic obstructive pulmonary disease (COPD)
 - ▶ Asthma
 - ▶ Occupational lung diseases
 - ▶ Pulmonary hypertension
- ▶ Risk factors:
 - ▶ Air pollution
 - ▶ Occupational chemicals & dusts
 - ▶ Frequent lower respiratory infections during childhood
- ▶ Incurable

Preventing CRD

- ▶ COPD can be prevented by avoiding exposure to tobacco smoke & air pollutants
- ▶ Maintain good hygiene, wash hands regularly with soap & water



Cancer

- ▶ General term that refers to a collection of related diseases
- ▶ Develops when our old, abnormal, or damaged cells fail to die off
 - ▶ The body divides & spreads these cells into the surrounding tissues → tumors
- ▶ Genetics, environmental exposures
 - ▶ Chemical substances, tobacco, smoking, radiation, etc.

Cancer Cell vs. Normal Cell

Cancer cell:

- ▶ Less specialized
- ▶ No specific function
- ▶ Never stop multiplying
- ▶ Can induce normal cells
- ▶ Have the ability to “hide” from the immune system
- ▶ Can use the immune system to stay alive & grow

Normal cell:

- ▶ Mature into distinct cell types with specific functions
- ▶ Die-off overtime

Cancer

- ▶ **Tumors:** an abnormal growth of tissue
- ▶ Two Types of Tumors:
 - ▶ Malignant
 - ▶ Benign
- ▶ **Metastasis** – the spread of cancer cells

Types of Cancer

Bladder	Breast
Cervical	Colon & rectal
Endometrial	Lymphoma
Leukemia	Lung
Oral	Ovarian
Pancreatic	Prostrate
Skin	Brain
Thyroid	Kidney
Esophageal	Uterine
intestinal	Galbladder

Reducing Your Risk

- ▶ Know the warning signs of cancer:
 - ▶ **C**hange in bowel/bladder habits
 - ▶ **A** sore that does not heal
 - ▶ **U**nusual bleeding/discharge
 - ▶ **T**hickening or lump in a breast or elsewhere
 - ▶ **I**ndigestion or difficulty swallowing
 - ▶ **O**bvious change in a wart or mole
 - ▶ **N**agging cough or hoarseness
- ▶ Live tobacco-free
- ▶ Protect yourself from UV radiation
- ▶ Follow dietary guidelines
- ▶ Maintain desirable weight
- ▶ Avoid drinking alcohol
- ▶ Avoid exposure to dangerous chemicals/airborne substances
- ▶ Avoid air pollution
- ▶ Avoid infection with HIV & STDs
- ▶ Know your family's cancer history

Diabetes

- ▶ **Diabetes:** a disease in which the body either produces little or no insulin or cannot properly use insulin
 - ▶ **Insulin** – hormone that regulates blood sugar levels

Type 1	Type 2	Gestational
“Juvenile diabetes;” Can be congenital; unable to produce insulin	“adult onset” diabetes; more common; hyperglycemia	Form of high blood sugar that only affects pregnant women
Approximately 5-10% of U.S. citizens have this	Increased insulin resistance	Approximately 4% of pregnant women develop gestational diabetes
	Linked with excessive weight gain	Puts one at risk for development Type 2

Treatment for Diabetes

- ▶ Diet
- ▶ Exercise
- ▶ Medications
- ▶ Insulin